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RESEARCH ARTICLE



Event-study approach: the case of Airbnb and hotel stocks

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ABSTRACT

This study investigates the impact of Airbnb announcements on hotel stock prices across ten countries, distinguishing between exact- and general-location announcements. We found that while general announcements have minimal impact, those with exact locations consistently reduce hotel stock prices, as evidenced by negative cumulative abnormal returns (CAR) trends. The primary impact occurs within the [-3, +1]-day window surrounding the announcement. These robust findings persist across various tests, underscoring their reliability. Implications include the importance of investor awareness regarding location-specific announcements and the need for regulatory examination of information disclosure practices on platforms like Airbnb., n.d. The study offers valuable insights for investors and policymakers navigating the dynamic landscape of the hospitality industry in the age of online platforms.

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Event studies approach;
Airbnb; hotel companies;
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1. Introduction

Recent decades have witnessed the development of the peer-to-peer (P2P) economy in response to a variety of technological and sociological changes. The term “peer-to-peer” refers to a transaction in which, for a specified fee, a party rents an un- or under-used product to a party that temporarily needs it (Gupta et al., 2019). While some researchers use the term “sharing economy,” this term is not accurate, as the product is not really “shared” (Dolnicar, 2021). Having spread from the accommodation market to the car, fashion (Choi & He, 2019), and even electricity markets (Schneiders et al., 2022), the P2P economy now has the potential to profoundly alter the entire economy. The most conspicuous example of the P2P economy remains the P2P accommodation market, specifically the role of Airbnb (Gansky, 2011; Sundararajan, 2013). Airbnb links parties that have vacant housing available with parties (such as tourists) seeking temporary accommodations via a digital market (Botsman & Rogers, 2011; Zervas et al., 2017). Founded in 2008 by Brian Chesky and Joe Gebbia, by 2021 Airbnb had 12.7 million listings in 100,000 cities (Airbnb, n.d.). With a market value of \$113 billion (Airbnb, n.d.), Airbnb now leases more rooms than the world’s three largest hotel companies combined.

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Airbnb poses a potentially serious threat to the traditional hospitality industry because it offers significantly less costly accommodations and more diversity than do hotels (Dolnicar, 2019). Some researchers claim that Airbnb is a substitute for hotels. For example, Guttentag and Smith (2017) found that over 60 percent of Americans use Airbnb instead of hotels. Similarly, Yang et al. (2021) found the two to be interchangeable options. Analyzing 466 estimates from 33 studies on the effect of Airbnb on hotel performance, they found that Airbnb's effect was small but negative. Dogru, Mody, et al. (2020) researched ten major hotel markets in the United States between 2002 and 2018 and reported that the increase in Airbnb supply between 2008 and 2017 had a negative effect on hotel revenues, average prices, and occupancy rates. In addition, Dogru, Hanks, et al. (2020) found that in London, Paris, Sydney, and Tokyo, an increase of 1% in Airbnb listings reduced hotel revenue between 0.016% and 0.031%. According to Blal et al. (2018), in San Francisco overall hotel revenue per room was unrelated to the availability of Airbnb alternatives. However, in certain segments it was affected by the average price of Airbnb accommodations. Conversely, other researchers have argued that Airbnb is a complementary product. For example, Varma et al. (2016) surveyed hotel employees and found that Airbnb and hotels target different types of guests. Likewise, Sainaghi and Baggio (2020) determined that on weeknights, hotels usually serve business guests, while Airbnb houses leisure guests.

Alongside the immediate impact Airbnb has had on the hospitality industry, including a rise in tourist numbers (Gutiérrez et al., 2017), it has also had a wider effect on the wider economy (Levendis & Dicle, 2016; Negi & Tripathi, 2022). One example is its impact on rental and housing prices (Barron et al., 2021; Benitez-Aurioles & Tussyadiah, 2020). Airbnb has been found to lead to increased crime rates (Ke et al., 2021) as well as neighborhood gentrification and overcrowding (Gyodi, 2019; van Holm, 2020). Findings from the Balearic Islands indicate that Airbnb engenders environmental degradation Martin et al. (2018). On the other hand, Airbnb has had a positive effect on the hotel and restaurant employment market (Dogru, Mody, et al., 2020; Mao et al., 2018) and on the revenues of local communities and authorities (Belarmino et al., 2021; Farmaki & Kaniadakis, 2020; Mao et al., 2018).

The emergence of Airbnb has brought significant disruption to the hospitality sector, generating both positive and negative effects on local economies. As a result, local municipalities and governments have been prompted to reconsider their regulatory approaches towards Airbnb., n.d. In order to make well-informed policy decisions, it is crucial to gain a comprehensive understanding of Airbnb's impact on markets. This study adopts a unique approach by examining stock market responses to Airbnb announcements in relation to hotel stock values, aiming to determine whether Airbnb operates as a substitute for or complementary service to traditional hotels. Unlike conventional research, which often focuses on specific geographic locations (Dann et al., 2019), this investigation offers a broader perspective on the dynamic relationship between Airbnb and the hotel industry.

The disruptive potential of Airbnb in the stock markets of various countries has become a significant issue in academic discussions. Therefore, this study aims to investigate the financial implications of exact- versus general-location Airbnb listings on hotel stock prices in these regions. Employing a novel methodological approach, which includes comparative assessments, parametric and nonparametric tests, and

robustness tests, this research seeks to provide insights of value to both capital market participants and policymakers. This study makes a substantial contribution to the existing literature on several points. First, it pioneers an examination of the differentiated impact of advertisements with exact versus those with general locations on stock markets within the context created by Airbnb, thus filling a gap in the current research. Second, by employing an extensive set of statistical tests—six parametric and nonparametric tests, along with four robustness tests – the study enhances the reliability and robustness of its findings beyond the conventional statistical tests typically applied in prior event research within the Airbnb domain. Last, the study utilizes primary data sourced directly from the Airbnb website, allowing for the segmentation of posts based on the respective countries' locations. The results of the study suggest that announcements with general locations have a limited effect on hotel company stock prices, while those with exact locations lead to a clear decline in hotel stock prices.

2. Literature review

The efficient market theory (EMH) posits that share prices reflect all information known to the market. Investors seeking profit avenues look for information that is predictive of stock prices. Extensive research has therefore been performed on how different information published in various media affects stock prices. One common way to study the impact of news on markets is to apply event-study methodology. This method has been widely used in many areas, including marketing (Sorescu et al., 2017), economics (Lee & Mas, 2012), accounting (Jiang et al., 2015), health (Maneenop & Kotcharin, 2020), air travel (Kumari et al., 2022, 2023), the events industry (Seraphin, 2021), and tourism (Pandey 2021; Papakyriakou et al., 2019).

In the hospitality industry, the event-study approach has been used by many researchers. For example, Che Ahmat et al. (2023) applied it to test the impact of a minimum hospitality industry wage on the stock prices of hotel companies in Malaysia, finding that introducing or increasing a minimum wage led to a decline in stock values. Bloom and Jackson (2016) found a negative effect associated with changes in hotel company CEOs. Likewise, Dogru (2017) found that acquisition has a positive effect, its size depending on the financial constraints and organizational structure involved. Kim (2023) observed divergent impacts on the offering bidder and on the target of announcements related to hotel mergers. In their investigation of the effects of the Russia – Ukraine war on global tourism stocks, Pandey and Kumar (2022) revealed distinct effects across various markets.

Focusing specifically on Airbnb, Garcia-López et al. (2020) used several models, including the event-study model, to test the effect of Airbnb on Barcelona's housing and rental prices. They found that since 2014, when Airbnb became an important factor in Barcelona, housing and rental prices increased in neighborhoods where Airbnb was present, unlike neighborhoods in which it was not. This result was also obtained by Bibler et al. (2022) in Chicago and San Francisco; however, they also found that growth in Airbnb listings helps the individual's listers economic situation. Similarly, Gonçalves (2020) focused on the ban on Airbnb in Lisbon, Portugal, finding that there was a sharp increase in providers'

registration on Airbnb between the time the ban was announced and its implementation, and that housing buyers liked the option of being able to participate in the Airbnb market.

Studying the effect on funding on Airbnb and hotels at different business stages, Bianco, Zach, and Liu (2022) found that the startup phase for traditional hotels had a negative effect on stock markets, while Airbnb at a similar stage experienced a positive effect. Examining the connection between Airbnb and hotel companies, Bianco, Zach, and Singal (2022) used a sample of publicly traded hotel management companies and hotel real estate investment trusts in the United States before and after Airbnb was recognized as a competitor (2013–2014). Using the event-study methodology, they found that after 2014, new products or services offered by Airbnb had a negative effect on markets. Focusing on this connection but extending it to Airbnb worldwide, Teitler-Regev and Tavor (2023) tested how announcements on the Airbnb website affected stock values of hotel companies, finding a negative connection. In addition, they found that positive Airbnb announcements led to a decline in stock values, while announcements regarding families had a longer-term effect.

Numerous studies (e.g., Bianco, Zach, & Singal, 2022; Kim, 2023; Teitler-Regev & Tavor, 2023) have supported the conclusion that negative events, such as cyber-attacks (Arcuri et al., 2020), terrorist attacks (Markoulis & Neofytou, 2019), political uncertainties (Das et al., 2020), and COVID-19 (Clark et al., 2021; Sharma & Nicolau, 2020; Shin et al., 2021) have a negative effect on markets.

Moreover, the inclusion of location information in announcements may result in varied effects on hotel stock prices. For example, Viljoen (2016) investigated the impact of news announcements on stocks with dual listings, revealing that these announcements not only influenced stocks within the specific market but also had a spillover effect on the broader market. Another study by Kumari et al. (2023), examining the effects of the Russia – Ukraine war, demonstrated that companies situated in distant regions such as Asia and America remained unaffected, whereas those in proximity to the event, such as Europe, the Middle East, and Africa, experienced significant impacts.

Building upon these empirical findings, the study formulates the following hypothesis:

Hypothesis: Airbnb announcements specifying an exact location will exert a distinct influence on local hotel stock prices when compared to announcements without location specificity.

This study aims to fill a gap in the existing literature by undertaking a comparative analysis of the effects of Airbnb announcements with specific location references versus those without such specificity. Drawing on the foundational research by Teitler-Regev and Tavor (2023), this investigation employs sophisticated statistical models to scrutinize the impact of these distinct types of announcements on hotel stock prices.

Table 1. Announcements with exact and general location.

	Announcements	Stocks	2017	2018	2019
All Sample	180	1114	100%	100%	100%
Exact location	48	145	11%	28%	29%
General location	132	969	89%	72%	71%

The table presents data pertaining to the distribution of announcements categorized by specificity of location, delineating between those with exact location and those characterized by a more general indication of location.

3. Method and methodology

3.1. Data

This research investigates the impact of Airbnb’s country-specific announcements on the stock performance of hotel companies across ten prominent countries globally: the United States, France, Australia, India, Japan, the United Kingdom, China, Germany, Thailand, and Spain. The selection of these countries is based on Airbnb’s substantial activity within these regions and the prevalence of publicly traded hotel entities within their borders. The categorization of announcements is detailed in [Table 1](#), distinguishing between those specifying exact locations and those offering a more general location. Specifically, announcements are classified as either having a specific country location or providing a broader representation of a region or continent, as detailed in [Appendix A](#).

For Airbnb listings with exact location details, yield data were gathered for hotel companies situated in the corresponding country. Conversely, for announcements lacking specific location details, return data were systematically collected for hotel companies situated within the specified announcement area (e.g., the continent) and sampled countries. The dataset encompasses 48 announcements related to 145 stocks with exact locations and 132 announcements related to 969 stocks with general locations. The data collection period, starting in 2017, aligns with Airbnb’s notable expansion and acquisition efforts in the hospitality sector during that year. Additionally, it coincides with a substantial increase in the rate of announcements published on the website during this period. The outbreak of the COVID-19 pandemic, which profoundly impacted the hospitality and tourism markets, made it necessary to terminate data collection in 2019.

To evaluate the influence of Airbnb announcements on the stock prices of hotel companies, we gathered return data for the specified hotel firms (outlined in [Appendix B](#)). Additionally, we considered market returns using the ten leading stock indices of the respective countries as benchmarks. These indices, obtained from Yahoofinance.com and Investing.com, include Standard & Poor’s 500 (S&P 500), Cotation Assistée en Continu (CAC 40), Standard & Poor’s Australian Securities Exchange 200 (S&P/ASX 200), BSE SENSEX 30 (BSE Sensex 30), Nikkei Stock Average 225 (Nikkei 225), Financial Times Stock Exchange 100 Index (FTSE 100), Shanghai Stock Exchange 50 Index (Shanghai SE 50), Deutscher Aktienindex (DAX), Stock Exchange of Thailand 100 Index (SET 100), and Índice Bursátil Español (IBEX 35).

3.2. Empirical strategy

The event-study approach was developed as a statistical approach to measuring how an economic event affects the market by utilizing abnormal returns (AR) (Luoma, 2011), specifically testing the efficient market theory (EMT) developed by Fama (1970). The first research published using the event-study approach was carried out by Dolley (1933) in the early 1930s. In the late 1960s, research by R. Ball and Brown (1968) and Fama et al. (1969) introduced the methodology that is still in use today in much economics and finance research. However, several modifications have been made over time, specifically using daily instead of monthly data and employing more sophisticated methods to estimate the abnormal returns (Brown & Warner, 1980, 1985; J. Y. Campbell et al., 1997).

While the conventional event-study approach to measuring abnormal returns around a specific day is widely used, it is problematic in several respects. First, stock prices are not necessarily normally distributed (Kolari & Pynnönen, 2010). Additionally, when there is non-synchronous trading, bias could appear in the ordinary least squares (OLS) estimations (Dutta, 2014), and an increase in the variance of the returns might lead to misspecification of the model (Brown & Warner, 1980, 1985). Several researchers have suggested ways to address some of these problems, and other tests have been developed to increase accuracy and robustness. For example, Boehmer et al. (1991), assuming that the event-induced variance is identical for all stocks, argued that in obtaining the test result the event-period returns need to be standardized according to the estimation-period standard deviation. In addition, the cross-sectional mean of the standardized returns should be divided by the cross-sectional standard deviation. Brown and Warner (1980, 1985) demonstrated that when the event day is the same for several industries, the use of the market model reduces abnormal return intercorrelation to close to zero. However, this is not the case when the stocks are from the same industry, which can lead to over-rejection of the null hypothesis. To address this problem, Kolari and Pynnönen (2010) offered a variation of Patell's standardized t-test (Patell, 1976) that assumes cross-sectional independence and controls the impact of large standard aberrations and even conscious changes in the variance of the returns (Hussain et al., 2021). Boehmer et al. (1991) used the cross-sectional variance while ignoring the estimation-period residual variance. Using maximum likelihood estimation (MLE) on stock return data, C. Ball and Torous (1988) simultaneously estimated event-period returns, the variance of these returns, and the probability of the event's occurrence for any given day in the event window. Their results suggest that while the null hypothesis is rejected more often when using the MLE method than with the traditional Brown and Warner (1985) method, the null hypothesis is not rejected too often when it is true. The standardized residual test assumes that the residuals are not correlated and that the event-induced variance is insignificant. Applying this test, as did Brown and Warner (1985) and Boehmer et al. (1991), the event-period residuals are divided by their standard deviation, thereby enabling them to adjust and reflect the forecast error.

Nonparametric tests are well-specified and effective in detecting a false null hypothesis of no abnormal return. Using nonparametric sign and rank tests, researchers including Corrado (1989), Corrado and Zivney (1992), Cowan (1992), C. Campbell and Wasley (1993), and Corrado and Truong (2008) have shown that these tests produce better specification and statistical power than parametric tests.

Zivney and Thompson (1989) performed risk adjustment, adjusting the sign test to deal with skewness. To overcome the problem of event-induced variance, Corrado (1989) offered a nonparametric rank test which relaxes the assumption of normality and thus provides more robust results. This test applies for a one-day abnormal return, but Corrado's claim is that it can be used for multiple-day events if the estimation period is divided by intervals according to the number of days in the cumulative annual returns (CAR) windows. For longer time periods, however, the number of observations becomes very small, thereby weakening the model estimation. As a result of this problem, Cowan (1992) and C. Campbell and Wasley (1993) used the CARs on Corrado's rank test (Corrado, 1989). The shortcoming of this method is a loss of power to detect abnormal returns, specifically when the event windows are long. To avoid this problem, Kolari and Pynnonen (2011) developed a generalized rank test that uses the generalized standardized abnormal returns to test both single and cumulative abnormal returns. The test they offer includes robust-to-abnormal-return serial correlation, event-induced volatility, and cross-sectional correlation of abnormal returns. One of the shortcomings of the sign test is the loss of information due to the use of positive or negative signs. The Wilcoxon signed-ranks test (WSRT; Wilcoxon, 1945) reflects this limitation, as it not only tests observed values relative to the median but also considers their relative sizes (Zoungana et al., 2021).

In our research, the day of the event refers to the day the announcements about Airbnb were posted, and is defined as $t = 0$. If the event occurs on a non-trading day, the event day will be the first business day following the event. The time points $t = T_0 + 1, T_0 + 2, \dots, T_1$ are the days of the estimates as related to the event day. During this period, we calculate the statistical values that are the basis for testing the event. Finally, $t = T_1 + 1, T_1 + 2, \dots, 0, \dots, T_2$ are the days of the event window related to the event day.

The event-study methodology lacks a standardized rule governing the specific duration of event and estimation windows. Over the years, researchers have adjusted the length of these windows to align with the unique requirements of their investigations (Alkhatib & Harasheh, 2018; R. Ball & Brown, 1968; Brown & Warner, 1985; Fama et al., 1969; Palatnik et al., 2019; Teitler-Regev & Tavor, 2023). In the current investigation, the event window, represented by $t \in [-30, +30]$, is defined in accordance with the methodology articulated in the studies of Chowdhury et al. (2022) and Teitler-Regev and Tavor (2023).

We used abnormal returns and cumulative abnormal returns to analyze the responses of hotel company stock returns to Airbnb announcements. In addition, we built a market model to describe the correlation of hotel company stock returns for event i on day t , (R_{it}), to the market return on that day, (R_{mt}) under normal circumstances; meaning a situation when no significant unpredictable events occurred. The market return is represented by the return on the index of the stock that is tested:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \xi_{it}, t \in [-330, -31], i = 1, 2, \dots, N. \quad (1)$$

The return (R_{it}) is characterized with weak white-noise random variables, with $E[R_{it}] = \mu_i$ and $\text{Var}[R_{it}] = \sigma_i^2$ for all t and $\text{Cov}[R_{it}, R_{ih}] = 0$ for all $t \neq h$.

The normal return, $E(R_{it}|I_t)$, for information I_t on day t is based on ordinary least squares regression with the estimators $\hat{\alpha}_i$ and $\hat{\beta}_i$:

$$E(R_{it}|I_t) = \hat{\alpha}_i + \hat{\beta}_i R_{mt}, t \in [-30, +30], i = 1, 2, \dots, N. \quad (2)$$

The abnormal return AR_{it} representing the difference between the actual and normal returns for event i on day t is then calculated as

$$AR_{it} = R_{it} - E(R_{it}|I_t), t \in [-30, +30], i = 1, 2, \dots, N. \quad (3)$$

The standardized abnormal return (SAR) is defined as

$$SAR_{it} = \frac{AR_{it}}{S(AR_i)}, \quad (4)$$

where $S(AR_i)$ is the standard deviation of the regression errors in forecasting the abnormal returns (see J. Y. Campbell et al., 1997).

The cumulative abnormal return for event i on day t (CAR_{it}) tests the cumulative influence of an event over a period of time $t \in [t_1, t_2]$ by summarizing the abnormal returns during this time:

$$CAR_{i,t_1,t_2} = \sum_{t=t_1}^{t_2} AR_{it}, t \in [t_1, t_2]. \quad (5)$$

The standardized cumulative abnormal return (SCAR) is defined as

$$SCAR_{i,t_1,t_2} = \frac{CAR_{i,t_1,t_2}}{S(CAR_{i,t_1,t_2})}, \quad (6)$$

where $S(CAR_{i,t_1,t_2})$ is the cumulative standard deviation of the regression errors in forecasting the abnormal returns.

In addition, we calculated the cumulative average abnormal return $CAAR_{t_1,t_2}$ in the event window as follows:

$$CAAR_{t_1,t_2} = \frac{\sum_{i=1}^N CAR_{it}}{N} \quad (7)$$

In this context, CAR_{it} denotes the cumulative abnormal returns associated with event i within the defined event window $[t_1, t_2]$. $CAAR_{t_1,t_2}$ serves as an analytical tool that provides a visual representation of the average abnormal return behavior across all events within this specified period, offering valuable insights into the collective trends during this timeframe.

In order to test the significance of the event window, we used three parametric tests and three nonparametric tests. The first parametric test is the well-known ordinary t-test (ORDIN) (see Brown & Warner, 1985; J. Y. Campbell et al., 1997), specified as follows:

$$t_{ORDIN} = \frac{CAR_{(t_1,t_2)}}{SCAR_{i,t_1,t_2}}. \quad (8)$$

This test has been widely used, for example in Teitler-Regev and Tavor (2023), Luoma (2011), and Maneenop and Kotcharin (2020).

The second parametric test, Patell's test, can overcome the weakness of the standard t-test for fluctuations caused by an event by standardizing the abnormal returns within the event window (see Patell, 1976):

$$t_{\text{PATELL}} = \frac{\overline{\text{SCAR}}_{(t_1, t_2)}}{\sqrt{\frac{L_1 - 2}{N(L_1 - 4)}}}, \quad (9)$$

where $\overline{\text{SCAR}}_{(t_1, t_2)}$ is the average of the standard deviations of the *CAR* values and L_1 represents the number of days in the estimation window. This test was used by Luoma (2011), Drechsler et al. (2019), and Buigut and Kapar (2020).

The third parametric test uses the standardized cross-sectional approach and is also known as the Boehmer, Musumeci, and Poulsen (BMP) test (see Boehmer et al., 1991):

$$t_{\text{BMP}} = \frac{\overline{\text{SCAR}}_{(t_1, t_2)} \sqrt{N}}{S(\text{SCAR}_{t_1, t_2})} \quad (10)$$

where $S(\text{SCAR}_{t_1, t_2})$ is the cross section of the standard deviations for the *SCAR* values. This test has been used by researchers including Luoma (2011), Tahir et al. (2020), and Allen (2021).

The first nonparametric test is the rank test. In order to perform this test, we assign the abnormal returns of each firm a rank (K) through the combined time period (T) that includes both the estimation and event windows. The test compares the ranks during the event period for each firm with the expected rank, $\bar{K} = 0.5 + T/2$ (Corrado, 1989):

$$Z_{\text{RANK}} = \sqrt{L_2} \left(\frac{\bar{K}_{(t_1, t_2)} - \bar{K}}{S(\bar{K})} \right) \quad (11)$$

where $\bar{K}_{(t_1, t_2)}$ is the average rank in the event window, L_2 is the number of days in the event window that are tested, and $S(\bar{K})$ represents the ranked standard deviation for the estimation period and the event period. This test was used by Luoma (2011), Hussain et al. (2021), and Pandey and Kumari (2021).

The second nonparametric test is the GRANK-Z test. We define the generalized standardized abnormal return (GSAR) following Kolari and Pynnonen (2011):

$$\text{GSAR}_{it} = \begin{cases} \frac{\text{SCAR}_{it_1, t_2}}{S(\text{SCAR}_{t_1, t_2})} & \text{for } t_1 \leq t \leq t_2, \\ \text{SAR}_{it} & \text{for } t = T_0 + 1, \dots, T_1. \end{cases} \quad (12)$$

The de-meaned standardized abnormal ranks of the GSAR_{it} are given by

$$U_{it} = \frac{\text{Rank}(\text{GSAR}_{it})}{T + 1} - 0.5 \quad (13)$$

and the GRANK-Z test statistic is

$$Z_{\text{GRANK}} = \frac{\bar{U}_{(t_1, t_2)}}{S(\bar{U})} \quad (14)$$

where $\bar{U}_{(t_1, t_2)}$ and $S(\bar{U})$ are the average de-meaned standardized abnormal rank of the GSAR_{it} and the standard deviation of the average U_{it} respectively in the estimate window for event i on day t . This test was used by Fotaki et al. (2021).

The third nonparametric test is the WSRT test. This test considers both the power and the sign of the abnormal returns as important (see Gibbons & Chakraborti, 2014; Wilcoxon, 1945) and is defined as follows:

$$Z_{WSRT} = \frac{\sum_i CAe_i^+ - \frac{N(N+1)}{4}}{\frac{N(N+1)(2N+1)}{24}}, \quad (15)$$

Table 2. Descriptive statistics of market indices yields.

Country	Index	N	Mean	Std. Dev.	Min.	Median	Max.
USA	S&P 500	798	0.052	0.799	−4.100	0.050	4.960
France	CAC 40	812	0.030	0.948	−8.040	0.010	4.140
Australia	S&P/ASX 200	803	0.030	0.721	−3.200	0.070	3.340
India	BSE Sensex 30	570	0.067	0.686	−2.580	0.080	2.210
Japan	Nikkei 225	807	0.033	1.202	−7.920	0.050	7.160
UK	FTSE 100	803	0.028	0.796	−3.150	0.050	3.580
China	Shanghai SE 50	771	0.056	1.115	−5.330	0.050	6.280
Germany	DAX	803	0.028	0.987	−6.820	0.060	3.510
Thailand	SET 100	777	0.038	0.767	−3.280	0.070	4.420
Spain	IBEX 35	812	0.014	1.103	−12.350	0.030	3.760

The values of the mean, standard deviation, minimum, median, and maximum are presented in the table as percentages. The indices presented are the leading indices in each country.

Table 3. Cumulative abnormal return (CAR) for general and exact locations.

Panel A: General location							
Daily time	CAR(%)	ORDIN	PATELL	BMP	RANK	GRANK-Z	WSRT
Event window surrounding the event day							
CAR[−1,+1]	0.019	0.174	−0.999	−0.913	0.427	0.565	0.461
CAR[−3,+1]	0.026	0.183	−1.140	−0.954	1.880*	1.078	−1.247
CAR[−5,+5]	0.160	0.771	−0.360	−0.306	−0.723	0.803	0.383
CAR[−10,+10]	0.116	0.405	−1.855*	−1.637	4.387***	1.974*	1.956*
Pre−event and post−event window							
CAR[−3,0]	0.029	0.231	−0.774	−0.646	1.277	0.841	0.950
CAR[−2,0]	0.043	0.393	−0.386	−0.318	0.756	0.718	0.762
CAR[−1,0]	0.022	0.249	−0.516	−0.473	0.538	0.520	0.325
CAR[0,0]	0.033	0.524	0.365	0.372	−0.270	−0.275	−0.896
CAR[0,+1]	0.030	0.334	−0.450	−0.436	−0.361	−0.038	−0.518
CAR[0,+2]	−0.030	−0.268	−1.471	−1.414	0.343	0.442	0.231
CAR[0,+3]	0.094	0.747	0.404	0.372	−2.369**	−0.318	−1.214
Panel B: Exact location							
Event window surrounding the event day							
CAR[−1,+1]	−1.149	−4.785***	−8.905***	−2.325**	6.002***	2.222**	3.527***
CAR[−3,+1]	−1.683	−5.431***	−10.156***	−3.082***	8.519***	2.705***	4.067***
CAR[−5,+5]	−1.268	−2.759***	−5.242***	−2.223**	6.527***	1.849*	2.716***
CAR[−10,+10]	−1.525	−2.401**	−4.482***	−2.410**	7.724***	1.854*	2.797***
Pre−event and post−event window							
CAR[−3,0]	−1.449	−5.227***	−10.060***	−3.051***	6.527***	2.530**	3.691***
CAR[−2,0]	−1.219	−5.079***	−9.539***	−2.786***	4.511***	2.306**	3.470***
CAR[−1,0]	−0.915	−4.666***	−9.075***	−2.259**	3.265***	2.019**	3.186***
CAR[0,0]	−0.671	−4.841***	−8.068***	−5.178***	3.838***	3.314***	4.781***
CAR[0,+1]	−0.905	−4.618***	−7.536***	−3.228***	3.845***	2.006**	2.929***
CAR[0,+2]	−0.807	−3.362***	−5.636***	−2.907***	3.629***	1.759*	2.533**
CAR[0,+3]	−0.884	−3.189***	−5.333***	−3.188***	4.239***	1.808*	2.590***

Panel A and panel B present CARs for general and exact locations, respectively. The parametric tests in columns 3–5 include the t-statistics (displayed as ORDIN), the Patell test (displayed as PATELL), and the standardized cross-sectional approach (displayed as BMP). The nonparametric tests in columns 6–8 include the Corrado rank test (displayed as RANK), the generalized standardized abnormal return (displayed as GRANK-Z), and the Wilcoxon signed-rank test (displayed as WSRT). For p-values, *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels respectively.

where CAe_t^+ is the positive rank of the absolute value of the cumulative abnormal real exchange rate return. This test was recently used by Kirana and Sembel (2019), Zoungrana et al. (2021), and Isyнуwardhana and Putri (2021).

4. Empirical results

4.1. Descriptive statistics

Table 2 provides descriptive statistics for the yields of key market indices in the ten countries examined in this research.

As can be seen from Table 2, the country with the highest average daily yield is India, with 0.067%. The country with the lowest average daily yield is Spain, at 0.014%. The country with the most volatility in its index is Japan, with a 1.202% standard deviation, while India has the most consistent yield of 0.6868%. Note that world income yield is approximately in the middle of the range at 0.04% and has the lowest volatility at 0.665%.

4.2. Effect of announcements with general versus exact locations on hotel company share prices

This section employs the market model to assess the impacts of Airbnb announcements on the stock returns of hotel companies, discerning between two categories of announcements: 48 instances specifying an exact location in relation to 145 events affecting hotel

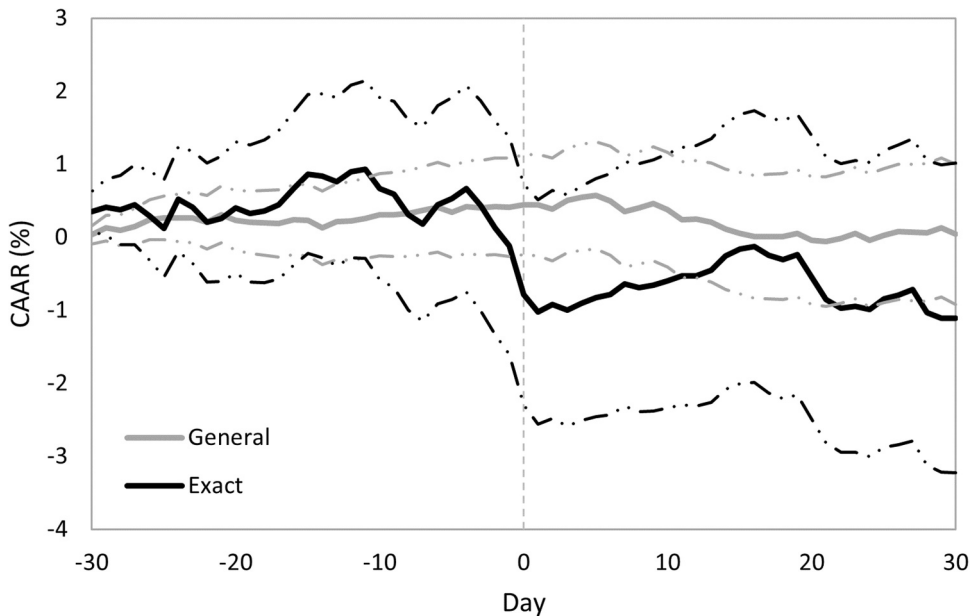


Figure 1. Cumulative average abnormal return (CAAR) behavior during the 61-day event window surrounding the event day for general and exact locations.

Note: The horizontal axis shows days relative to the event day $t = 0$. The dashed lines denote the 95% confidence intervals. The lines in black and gray indicate the $CAAR_{-30,+30}$ for exact and general location, respectively.

companies in the vicinity, and 132 announcements indicating a general location encompassing 969 events for hotel companies in the region. Figure 1 reveals the behavior of cumulative average abnormal returns (CAAR) within the ± 30 -day event window around the event day for these two announcement types, spanning from the day (-30) prior to the announcement to the day ($+30$) following the announcement. Panels A and B of Table 2 furnish cumulative abnormal return results corresponding to announcements with general and exact locations, respectively.

The outcomes are presented across two classifications of windows. The initial classification comprises four windows surrounding the event day: $[-1, +1]$, $[-3, +1]$, $[-5, +5]$, and $[-10, +10]$. The subsequent classification delineates three pre-event windows: $[-3, 0]$, $[-2, 0]$, and $[-1, 0]$, the event day window $[0, 0]$, and three post-event windows: $[0, 1]$, $[0, 2]$, and $[0, 3]$. Column 2 presents the CAR results for each window, while columns 3–5 portray the outcomes of three parametric tests (ORDIN, PATELL, and BMP), and columns 6–8 illustrate the results of three nonparametric tests (RANK, GRANK-Z, and WSRT).

Panel A in Table 2 and Figure 1 collectively suggest that as a rule, Airbnb announcements with a general location have no apparent impact on the stock prices of hotel companies, except within specific isolated windows. It can be inferred that investors exposed to announcements lacking exact locations do not alter their investment strategies, thereby resulting in negligible fluctuations in hotel stock prices.

The findings in Panel B present a contrasting scenario, indicating that announcements specifying an exact location exert an adverse effect on the stock prices of hotels in the announcement area. The CAR results consistently exhibit negative trends across all tested windows. Antecedent to the announcement, CAR consistently manifests a negative trend commencing ten days prior and persisting until ten days subsequently. Particularly noteworthy are the results within the window $[-3, +1]$, where $CAR_{-3, +1} = -1.683\%$, with a corresponding mean absolute value test (MAVT) statistic of 5.660.

This outcome implies that the primary impact of messages associated with precise locations occurs within the five days surrounding the event window $[-3, +1]$. Investors aware of early information can employ this knowledge to engage in short selling of hotel company shares three days prior to the announcements, subsequently closing the position the day after the announcement, thereby realizing an excess profit of 1.683%. At the same time, the remainder of the investing public can engage in short selling at the moment of the announcement, subsequently closing the position the day after, resulting in an excess profit of 0.95%.

The obtained results align with our hypothesized expectations and are congruent with the findings of Kumari et al. (2023), who demonstrated that events occurring in distant regions did not exert a significant impact on stock prices, whereas companies in closer proximity to the events experienced noticeable effects. Additionally, our results partially coincide with the outcomes observed by Viljoen (2016), who identified a substantial effect within the exact area of the event and a spillover effect in distant areas. Furthermore, this study lends additional support to the overarching notion, corroborated by numerous previous studies, that negative news has an unfavorable impact on stock prices. In the specific context of this research, news pertaining to Airbnb is found to adversely affect hotel stock prices when referencing an exact location, aligning with the findings of Arcuri et al. (2020), Bianco, Zach, and Singal (2022), Clark et al. (2021), Das

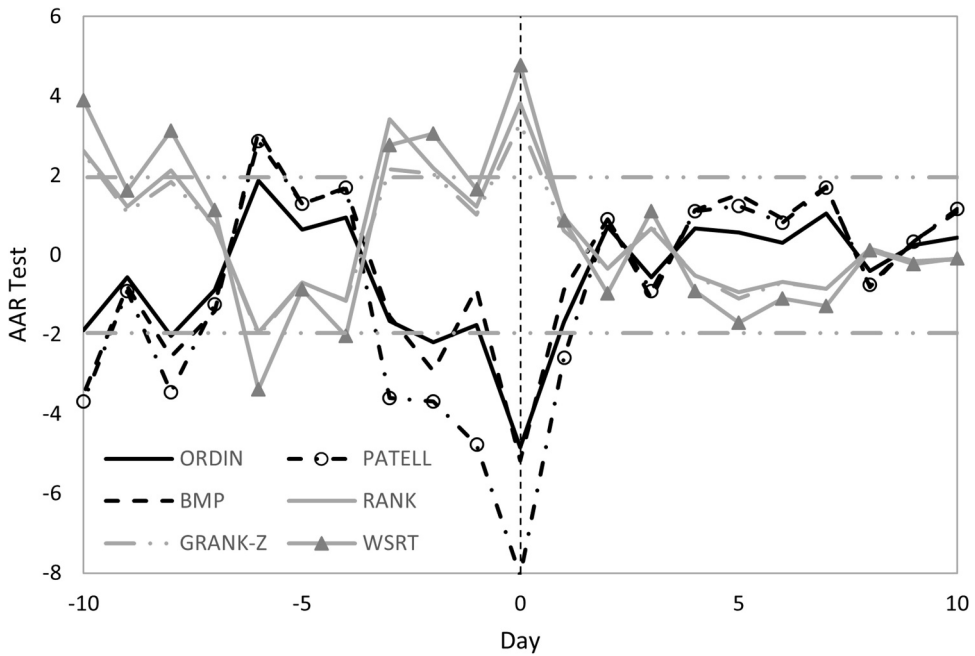


Figure 2. Parametric and nonparametric test results during 231 days around the event.

Note: The horizontal axis shows the days relative to the event day $t = 0$. The dashed horizontal lines denote statistical significance at the 5% level. The lines in black and gray indicate the results of the parametric and nonparametric tests respectively.

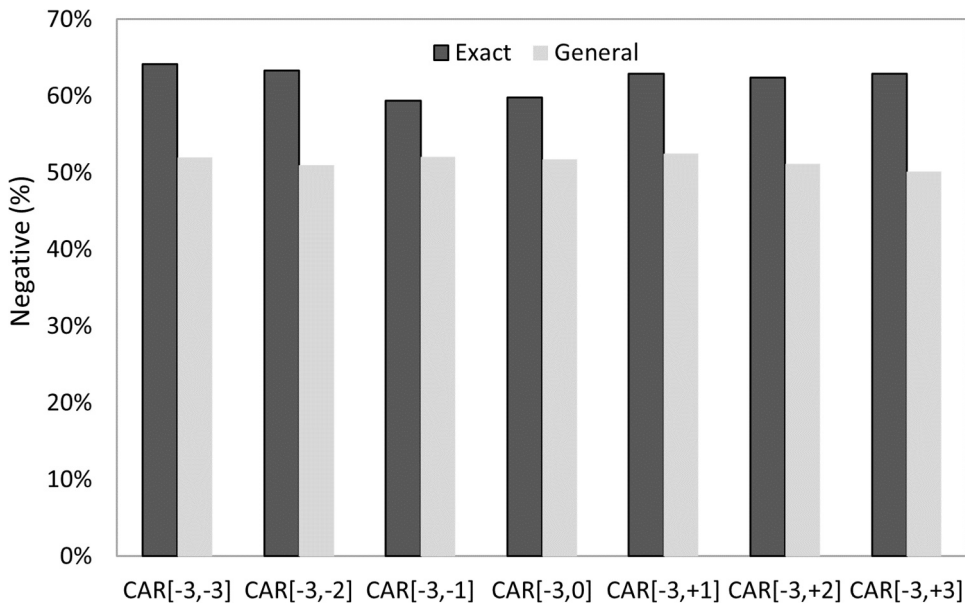


Figure 3. The cumulative percentage of announcements with a negative cumulative abnormal return (CAR) during the seven-day event window surrounding the event day for general and exact locations. Note: Columns in black and in gray indicate announcements with a negative CAR for exact and general locations, respectively.

et al. (2020), Kim (2023)), Markoulis and Neofytou (2019), Sharma and Nicolau (2020), Shin et al. (2021) and Teitler-Regev and Tavor (2023).

To strengthen the significant results obtained for announcements with an exact location we additionally present Figures 2 & 3. Figure 2 shows the results of the parametric and nonparametric tests during the 21 days around the event day, beginning on the tenth day before the announcement was published and ending ten days after the announcement was published. The dashed horizontal lines denote statistical significance at the 5% level. The lines in black and gray indicate the results of the parametric and nonparametric tests respectively.

Analyzing the figure, it can be seen that the trend in the parametric tests is usually opposite to that in the nonparametric tests. The most volatile parametric and nonparametric tests are Patell and WSRT, respectively. Also, there are five days when the majority of the tests are statistically significant at the 5% level: $t = -10, -8, -6, -2, \text{ and } 0$. However, calculating the strongest effect of the event according to CAR_{t_1, t_2} and significance statistics highlights the effect in the $[-3, +1]$ window.

Figure 3 describes the cumulative percentage of announcements with negative CAR_{-3, t_2} during the seven days around the event day, beginning three days before the announcement and ending three days after it, for announcements with general locations (marked in gray) and exact locations (marked in black). It can be seen from the figure that, on average, 51.5% of the announcements with general locations and 62.1% of those with exact locations have a negative CAR_{-3, t_2} during the test period. The result supports the statistically significant benefit gained from CAR_{t_1, t_2} in announcements with exact locations in all the event windows, compared to the lack of change in announcements with general locations in most of the event windows.

5. Robustness checks

This section describes two robustness checks to provide corroborating evidence for the empirical results presented in the previous section. Results of the first robustness test are presented in Table 3 and 4; they compare investors' attention in the short term to influence over the medium term. Panels A and B of the table present the results for the $[-10, +10]$ and the $[-3, +1]$ windows respectively.

The results in Table 4 show that for the most part, announcements with a general location published on Airbnb do not affect hotel stock prices, but announcements with specific locations do influence stock price results in all window types. The robustness test also shows that the window with the highest significance is $[-3, +1]$ with $CAR_{-3, +1} = -1.682\%$ (ORDIN = -5.363) and $CAR_{-3, +1} = -1.674\%$ (ORDIN = -5.283) in the $[-10, +10]$ and $[-3, +1]$ windows respectively.

The second robustness test, presented in Table 5, tests the effect of announcements published on Airbnb on hotel stock prices using two accepted models for calculating normal return: the index model (IM), presented in panel A, and mean adjusted returns (MAR), presented in panel B. This table also leads to the conclusion that generally, announcements with general locations posted on the Airbnb site do not affect hotel stock prices. For announcements with an exact location, an effect is seen

Table 4. Cumulative abnormal return (CAR) behavior for general and exact locations in the short term.

Daily time	Panel A: Event window [-10,+10]				Panel B: Event window [-3,+1]			
	General location		Exact location		General location		Exact location	
	CAR(%)	ORDIN	CAR(%)	ORDIN	CAR(%)	ORDIN	CAR(%)	ORDIN
Event window surrounding the event day								
CAR[-1,+1]	0.012	0.112	-1.143***	-4.705	0.012	0.110	-1.135***	-4.626
CAR[-3,+1]	0.015	0.110	-1.682***	-5.363	0.015	0.107	-1.674***	-5.283
CAR[-5,+5]	0.132	0.641	-1.288***	-2.768				
CAR[-10,+10]	0.058	0.203	-1.579**	-2.457				
Pre- and post-event windows								
CAR[-3,0]	0.018	0.142	-1.450***	-5.167	0.016	0.129	-1.443***	-5.092
CAR[-2,0]	0.035	0.323	-1.218***	-5.012	0.034	0.315	-1.208***	-4.924
CAR[-1,0]	0.014	0.164	-0.911***	-4.592	0.013	0.149	-0.905***	-4.514
CAR[0,0]	0.026	0.418	-0.673***	-4.795	0.025	0.402	-0.670***	-4.727
CAR[0,+1]	0.024	0.269	-0.905***	-4.561	0.024	0.270	-0.901***	-4.495
CAR[0,+2]	-0.037	-0.346	-0.812***	-3.342				
CAR[0,+3]	0.079	0.638	-0.897***	-3.197				

Panels A and B represent the CAR in the [-10, +10] and [-3, +1] windows, respectively. In each panel, the first two columns refer to CAR and t-statistics (displayed as ORDIN) of announcements with general location, and the last two columns refer to CAR and t-statistics (displayed as ORDIN) of announcements with exact locations. For p-values, *, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Table 5. Cumulative abnormal return (CAR) behavior according to the IM and MAR models for general and exact locations.

Daily time	Panel A: Index Model (IM)				Panel B: Mean Adjusted Returns (MAR)			
	General location		Exact location		General location		Exact location	
	CAR(%)	ORDIN	CAR(%)	ORDIN	CAR(%)	ORDIN	CAR(%)	ORDIN
Event window surrounding the event day								
CAR[-1,+1]	0.033	0.302	-1.233***	-5.047	-0.049	-0.329	-0.770**	-2.290
CAR[-3,+1]	0.041	0.293	-1.746***	-5.537	-0.074	-0.386	-1.238***	-2.853
CAR[-5,+5]	0.167	0.805	-1.407***	-3.007	-0.075	-0.263	-0.577	-0.896
CAR[-10,+10]	0.076	0.265	-1.774***	-2.745	-0.068	-0.174	-0.543	-0.611
Pre- and post-event windows								
CAR[-3,0]	0.043	0.348	-1.430***	-5.069	-0.112	-0.650	-1.138***	-2.931
CAR[-2,0]	0.057	0.530	-1.201***	-4.915	-0.056	-0.377	-0.968***	-2.880
CAR[-1,0]	0.035	0.398	-0.917***	-4.596	-0.086	-0.710	-0.670**	-2.440
CAR[0,0]	0.047	0.753	-0.681***	-4.827	-0.090	-1.043	-0.472**	-2.432
CAR[0,+1]	0.045	0.504	-0.997***	-4.998	-0.052	-0.430	-0.572**	-2.085
CAR[0,+2]	-0.003	-0.032	-0.965***	-3.952	-0.164	-1.101	-0.417	-1.239
CAR[0,+3]	0.109	0.873	-1.069***	-3.790	-0.090	-0.522	-0.350	-0.900

Panels A and B represent the CAR according to the index model (IM) and mean adjusted returns (MAR), respectively. In each panel, the first two columns refer to CAR and *t*-statistics (displayed as ORDIN) of announcements with general location, and the last two columns refer to CAR and *t*-statistics (displayed as ORDIN) of announcements with exact location. For *p*-values, *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

on stock prices for all types of windows according to the IM model, which considers the market return as a basis for calculating the normal return as in the market model. In the MAR model, most windows show an effect, but not all of them. A possible explanation is that this model does not include the market return in calculating the normal return, but only the average of historical returns on each stock. The second robustness test again shows that the window with the highest significance for announcements with an exact location is $[-3, +1]$, with $CAR_{-3, +1} = -1.746\%$ ($ORDIN = -5.537$) and $CAR_{-3, +1} = -1.238\%$ ($ORDIN = -2.853$), according to IM and MAR respectively.

In summary, both robustness tests show similar results to the main test, namely, that announcements with general locations published on the Airbnb website do not affect hotel stock prices, while announcements with an exact location have a negative effect on them. This leads to two major conclusions. The first is that investors with advance information who are exposed to announcements with an exact location on the Airbnb site can short sell hotel stocks in the area identified in an announcement three days before the announcement is posted and close the position one day after the announcement to make an excess profit. The second conclusion is that Airbnb provides a substitute to hotel services.

6. Conclusions and policy implications

6.1. Conclusions

This study aimed to assess the impact of announcements disseminated on the Airbnb platform on the stock prices of hotel companies, with a specific focus on distinguishing between announcements specifying exact locations and those of a general nature. The investigation encompassed ten prominent countries globally, namely the United States, France, Australia, India, Japan, the United Kingdom, China, Germany, Thailand, and Spain, selected based on the extensive operational presence of Airbnb and the prevalence of publicly traded hotel entities within these countries. The results of the event study reveal a nuanced pattern in the relationship between Airbnb announcements and hotel stock prices. For the most part, there appears to be no discernible impact on hotel stock prices, from announcements featuring a general location, except within specific isolated time windows. This suggests that investors tend to maintain their investment strategies when confronted with announcements lacking exact locations, resulting in minimal fluctuations in hotel stock prices.

Conversely, announcements specifying an exact location are associated with an adverse influence on the stock prices of hotels within the announcement area. CAR consistently exhibit negative trends across all tested windows, indicating a sustained negative impact from ten days prior to the announcement to 10 days following it. Notably, the primary impact of announcements delineating precise locations is concentrated within the five-day window $[-3, +1]$ surrounding the event. This suggests that investors with early access to information may engage in strategic short selling of hotel company shares three days prior to the announcements, closing the position the day after the announcement. Simultaneously, the wider investing public may capitalize on short selling at the moment of the announcement, subsequently closing the position the day after, leading to an excess profit. Furthermore, the robustness of these findings was substantiated through four

additional tests, encompassing different event windows and models for calculating normal returns and reinforcing the consistency and reliability of the obtained results.

This study is limited by its relatively short time frame, resulting in a limited number of years under study and, consequently, a restricted dataset of Airbnb announcements. Moreover, the geographical coverage of the study is confined to a relatively small number of countries. To enhance the robustness and generalizability of future research, it is recommended to include a more diverse set of countries, extend the temporal scope, and increase the volume of analyzed announcements. Additionally, forthcoming studies could explore alternative sources of information related to Airbnb announcements, enabling a more comprehensive examination of the adverse effects of announcements on hotel stock prices.

7. Policy implications

These findings carry significant policy implications for both investors and regulatory bodies. The observed differential impact of Airbnb announcements based on location specificity underscores the importance of informed decision making and proactive investment strategies. Investors should be aware of the potential consequences associated with announcements specifying exact locations, considering the observed negative trends in hotel stock prices within the affected regions. Regulatory authorities may find merit in evaluating the information disclosure practices of platforms like Airbnb, especially concerning the specificity of location details in their announcements. There may be a need for enhanced transparency or guidelines to mitigate potential market distortions arising from the selective disclosure of precise location information. In conclusion, the study's findings not only contribute to the understanding of the dynamics between platform-generated announcements and stock prices but also offer valuable insights for investors and policymakers seeking to navigate and regulate the evolving landscape of the hospitality industry in the context of emerging online platforms.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Tchai Tavor, an associate professor at the Department of Economics and Management at Yezreel Valley College (YVC), possesses a profound academic background and an extensive research portfolio encompassing various domains such as economics, marketing, finance, and behavioral finance. In the realm of economics, Tavor has extensively investigated fundamental issues pertaining to optimal pricing, with a particular focus on authoring multiple scholarly articles concerning optimal price discrimination policies. Within the realm of finance, Tavor's research efforts have spanned both theoretical and empirical domains. Notably, empirical investigations have entailed employing event study methodology to explore hypotheses regarding market efficiency. These endeavors aim to illuminate the process through which information disseminates and reaches investors via diverse events, while concurrently evaluating whether investors can exploit such information to generate abnormal profits.

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References

- Airbnb. (n.d.). Fast facts. <https://press.Airbnb.com/fast-facts>
- Alkhatib, A., & Harasheh, M. (2018). Performance of exchange traded funds during the brexit referendum: An event study. *International Journal of Financial Studies*, 6(3), 64.. <https://doi.org/10.3390/ijfs6030064>
- Allen, J. S. (2021). Do targeted trade sanctions against Chinese technology companies affect US firms? Evidence from an event study. *Business and Politics*, 23(3), 330–343.. <https://doi.org/10.1017/bap.2020.21>
- Arcuri, M. C., Gai, L., Ielasi, F., & Ventisette, E. (2020). Cyber attacks on hospitality sector: Stock market reaction. *Journal of Hospitality & Tourism Technology*, 11(2), 277–290. <https://doi.org/10.1108/JHTT-05-2019-0080>
- Ball, R., & Brown, P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research*, 6(2), 159–178.. <https://doi.org/10.2307/2490232>
- Ball, C., & Torous, W. (1988). Investigating security price performance in the presence of event-date uncertainty. *Journal of Financial Economics*, 22(1), 123–153. [https://doi.org/10.1016/0304-405X\(88\)90025-6](https://doi.org/10.1016/0304-405X(88)90025-6)
- Barron, K., Kung, E., & Proserpio, D. (2021). The effect of home-sharing on house prices and rents: Evidence from Airbnb. *Marketing Science*, 40(1), 23–47.. <https://doi.org/10.1287/mksc.2020.1227>
- Belarmino, A., Ozdemir, O., & Dogru, T. (2021). Always local? Examining the relationship between peer-to-peer accommodations and restaurants. *Journal of Hospitality & Tourism Management*, 48, 289–300. <https://doi.org/10.1016/j.jhtm.2021.07.003>
- Benitez-Aurioles, B., & Tussyadiah, I. (2020). What Airbnb does to the housing market. *Annals of Tourism Research*, 90, 103108.. <https://doi.org/10.1016/j.annals.2020.103108>
- Bianco, S., Zach, F. J., & Liu, A. (2022). Early and late-stage startup funding in hospitality: Effects on incumbents' market value. *Annals of Tourism Research*, 95. <https://doi.org/10.1016/j.annals.2022.103436>
- Bianco, S., Zach, F. J., & Singal, M. (2022). Disruptor recognition and market value of incumbent firms: Airbnb and the lodging industry. *Journal of Hospitality and Tourism Research*, 48(1), 84–104. <https://doi.org/10.1177/10963480221085215>
- Bibler, A., Teltser, K., & Tremblay, M. J. (2022). Short-term rentals, home prices, and housing affordability: Evidence from Airbnb registration enforcement. *Andrew Young School of Policy Studies Research Paper Series*, forthcoming.
- Blal, I., Singal, M., & Templin, J. (2018). Airbnb's effect on hotel sales growth. *International Journal of Hospitality Management*, 73, 85–92.. <https://doi.org/10.1016/j.ijhm.2018.02.006>
- Bloom, B. A., & Jackson, L. A. (2016). Abnormal stock returns and volume activity surrounding lodging firms' CEO transition announcements. *Tourism Economics*, 22(1), 141–161. <https://doi.org/10.5367/te.2014.0418>
- Boehmer, E., Masumeci, J., & Poulsen, A. B. (1991). Event-study methodology under conditions of event-induced variance. *Journal of Financial Economics*, 30(2), 253–272.. [https://doi.org/10.1016/0304-405X\(91\)90032-F](https://doi.org/10.1016/0304-405X(91)90032-F)
- Botsman, R., & Rogers, R. (2011). *What's mine is yours: How collaborative consumption is changing the way we live*. Collins.
- Brown, S. J., & Warner, J. B. (1980). Measuring security price performance. *Journal of Financial Economics*, 8(3), 205–258. [https://doi.org/10.1016/0304-405X\(80\)90002-1](https://doi.org/10.1016/0304-405X(80)90002-1)

- Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. *Journal of Financial Economics*, 14(1), 3–31.. [https://doi.org/10.1016/0304-405X\(85\)90042-X](https://doi.org/10.1016/0304-405X(85)90042-X)
- Buigut, S., & Kapar, B. (2020). Effect of Qatar diplomatic and economic isolation on GCC stock markets: An event study approach. *Finance Research Letters*, 37, 101352.. <https://doi.org/10.1016/j.frl.2019.101352>
- Campbell, J. Y., Lo, A. W., & MacKinlay, A. C. (1997). The econometrics of financial markets.. Princeton University Press.
- Campbell, C., & Wasley, C. (1993). Measuring security price performance using daily NASDAQ returns. *Journal of Financial Economics*, 33(1), 73–92. [https://doi.org/10.1016/0304-405X\(93\)90025-7](https://doi.org/10.1016/0304-405X(93)90025-7)
- Che Ahmat, N. H., Kim, J., & Arendt, S. W. (2023). Examining the impact of minimum wage policy on hospitality financial performance using event study method. *International Journal of Hospitality & Tourism Administration*, 24(1), 98–122.. <https://doi.org/10.1080/15256480.2021.1938785>
- Choi, T. M., & He, Y. (2019). Peer-to-peer collaborative consumption for fashion products in the sharing economy: Platform operations. *Transportation Research Part E: Logistics & Transportation Review*, 126, 49–65.. <https://doi.org/10.1016/j.tre.2019.03.016>
- Chowdhury, E. K., Dhar, B. K., & Stasi, A. (2022). Volatility of the US stock market and business strategy during COVID-19. *Business Strategy & Development*, 5(4), 350–360.. <https://doi.org/10.1002/bsd2.203>
- Clark, J., Mauck, N., & Pruitt, S. W. (2021). The financial impact of COVID-19: Evidence from an event study of global hospitality firms. *Research in International Business and Finance*, 58, 101452. <https://doi.org/10.1016/j.ribaf.2021.101452>
- Corrado, C. J. (1989). A nonparametric test for abnormal security-price performance in event studies. *Journal of Financial Economics*, 23(2), 385–395.. [https://doi.org/10.1016/0304-405X\(89\)90064-0](https://doi.org/10.1016/0304-405X(89)90064-0)
- Corrado, C. J., & Truong, C. (2008). Conducting event studies with Asia–Pacific security market data. *Pacific-Basin Finance Journal*, 16(5), 493–521. <https://doi.org/10.1016/j.pacfin.2007.10.005>
- Corrado, C. J., & Zivney, T. L. (1992). The specification and power of the sign test in event study hypothesis tests using daily stock returns. *The Journal of Financial and Quantitative Analysis*, 27 (3), 465–478.. <https://doi.org/10.2307/2331331>
- Cowan, A. R. (1992). Nonparametric event study tests. *Review of Quantitative Finance & Accounting*, 2(4), 343–358. <https://doi.org/10.1007/BF00939016>
- Dann, D., Teubner, T., & Weinhardt, C. (2019). Poster child and Guinea pig – insights from a structured literature review on Airbnb. *International Journal of Contemporary Hospitality Management*, 31(1), 427–473. <https://doi.org/10.1108/IJCHM-03-2018-0186>
- Das, D., Dutta, A., Bhadra, A., & Uddin, G. S. (2020). Role of presidential uncertainties on the hotel industry. *Annals of Tourism Research*, 81(C), 102762. <https://doi.org/10.1016/j.annals.2019.102762>
- Dogru, T. (2017). Under- vs over-investment: Hotel firms’ value around acquisitions. *International Journal of Contemporary Hospitality Management*, 29(8), 2050–2069. <https://doi.org/10.1108/IJCHM-04-2016-0219>
- Dogru, T., Hanks, L., Mody, M., Suess, C., & Sirakaya-Turk, E. (2020). The effects of Airbnb on hotel performance: Evidence from cities beyond the United States. *Tourism Management*, 79, 104090.. <https://doi.org/10.1016/j.tourman.2020.104090>
- Dogru, T., Mody, M., Line, N., Suess, C., Hanks, L., & Bonn, M. (2020). Investigating the whole picture: Comparing the effects of Airbnb supply and hotel supply on hotel performance across the United States. *Tourism Management*, 79, 104094.. <https://doi.org/10.1016/j.tourman.2020.104094>
- Dogru, T., Mody, M., Suess, C., McGinley, S., & Line, N. D. (2020). The Airbnb paradox: Positive employment effects in the hospitality industry. *Tourism Management*, 77, 104001.. <https://doi.org/10.1016/j.tourman.2019.104001>
- Dolley, J. C. (1933). Characteristics and procedure of common stock split-ups. *Harvard Business Review*, 11(3), 316–326.
- Dolnicar, S. (2019). A review of research into paid online peer-to-peer accommodation: Launching the annals of tourism research curated collection on peer-to-peer accommodation. *Annals of Tourism Research*, 75, 248–264.. <https://doi.org/10.1016/j.annals.2019.02.003>

- Dolnicar, S. (2021). Sharing economy and peer-to-peer accommodation: A perspective paper. *Tourism Review*, 76(1), 34–37.. <https://doi.org/10.1108/TR-05-2019-0197>
- Drechsler, K., Wagner, H. T., & Reibenspiess, V. A. (2019). Risk and return of chief digital officers' appointment: An event study.. *Academy of Management Proceedings*, 2019(1), 12390. <https://doi.org/10.5465/AMBPP.2019.12390abstract>
- Dutta, A. (2014). Parametric and nonparametric event study tests: A review.. *International Business Research*, 7(12). <https://doi.org/10.5539/ibr.v7n12p136>
- Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, 25(2), 383–417.. <https://doi.org/10.2307/2325486>
- Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969). The adjustment of stock prices to new information. *International Economic Review*, 10(1), 1–21.. <https://doi.org/10.2307/2525569>
- Farmaki, A., & Kaniadakis, A. (2020). Power dynamics in peer-to-peer accommodation: Insights from Airbnb hosts. *International Journal of Hospitality Management*, 89, 102571. <https://doi.org/10.1016/j.ijhm.2020.102571>
- Fotaki, M., Kourtis, A., & Markellos, R. (2021). Human resources turnover as an asset acquisition and divestiture process: Evidence from the U.K. football industry. *International Journal of Finance & Economics*, 28(3), 2696–2711. <https://doi.org/10.1002/ijfe.2558>
- Gansky, L. (2011, August 25). 'Do more, own less: A grand theory of the sharing economy'. *The Atlantic*. <http://www.theatlantic.com/business/archive/2011/08/do-more-own-less-a-grand-theory-of-the-sharing-economy/244141/>
- García-López, M. A., Jofre-Monseny, J., Martínez-Mazza, R., & Segú, M. (2020). Do short-term rental platforms affect housing markets? Evidence from Airbnb in Barcelona. *Journal of Urban Economics*, 119, 103278.. <https://doi.org/10.1016/j.jue.2020>
- Gibbons, J. D., & Chakraborti, S. (2014). *Nonparametric statistical inference*. CRC Press.
- Gonçalves, D. M. V. D. V. (2020). *Should We Ban AirBnB? Short-Term Rental Regulation and Housing Prices* [Doctoral dissertation].
- Gupta, M., Esmailzadeh, P., Uz, I., & Tennant, V. M. (2019). The effects of national cultural values on individuals' intention to participate in peer-to-peer sharing economy. *Journal of Business Research*, 97, 20–29.. <https://doi.org/10.1016/j.jbusres.2018.12.018>
- Gutiérrez, J., García-Palomares, J. C., Romanillos, G., & Salas-Olmedo, M. H. (2017). The eruption of Airbnb in tourist cities: Comparing spatial patterns of hotels and peer-to-peer accommodation in Barcelona. *Tourism Management*, 62, 278–291.. <https://doi.org/10.1016/j.tourman.2017.05.003>
- Guttentag, D., & Smith, S. L. (2017). Assessing Airbnb as a disruptive innovation relative to hotels: Substitution and comparative performance expectations. *International Journal of Hospitality Management*, 64, 1–10. <https://doi.org/10.1016/j.ijhm.2017.02.003>
- Gyodi, K. (2019). Airbnb in European cities: Business as usual or true sharing economy? *Journal of Cleaner Production*, 221, 536–551. <https://doi.org/10.1016/j.jclepro.2019.02.221>
- Hussain, R. Y., Ahmad, I., Hussain, H., Usman, M., & Khan, S. (2021). Domestic oil price reductions and automobile & spare parts industry stocks: An application of event study. *Ilkogretim Online*, 20(2), 778–786..
- Isyнуwardhana, D., & Putri, M. L. (2021). Event study analysis before and after COVID-19 in Indonesia. *Academy of Accounting & Financial Studies Journal*, 25(6), 1–11..
- Jiang, J., Wang, I. Y., & Xie, Y. (2015). Does it matter who serves on the financial accounting standards board? Bob Herz's resignation and fair value accounting for loans. *Review of Accounting Studies*, 20(1), 371–394. <https://doi.org/10.1007/s11142-014-9301-z>
- Ke, L., O'Brien, D. T., & Heydari, B. (2021). Airbnb and neighborhood crime: The incursion of tourists or the erosion of local social dynamics? *Public Library of Science ONE*, 16(7), e0253315.. <https://doi.org/10.1371/journal.pone>
- Kim, S. D. (2023). The valuation effects of hotel mergers. *Tourism Economics*, 29(2), 348–377.. <https://doi.org/10.1177/13548166211050475>
- Kirana, N., & Sembel, R. (2019). The effect of political events on the Indonesian stock market: An event study of the presidential election on LQ45 Index stocks. *International Journal of Business, Economics and Law*, 19(1), 40–49..

- Kolari, J. W., & Pynnonen, S. (2011). Nonparametric rank tests for event studies. *Journal of Empirical Finance*, 18(5), 953–971.. <https://doi.org/10.1016/j.jempfin.2011.08.003>
- Kolari, J. W., & Pynnonen, S. (2010). Event study testing with cross-sectional correlation of abnormal returns. *Review of Financial Studies*, 23(11), 3996–4025. <https://doi.org/10.1093/rfs/hhq072>
- Kumari, V., Kumar, R., & Pandey, D. K. (2022). Restrictions on air travel to India and the global airline industry - an event study and cross-sectional approach. *Asia Pacific Management Review*, 28(2), 240–251. <https://doi.org/10.1016/j.apmr.2022.10.002>
- Kumari, V., Tiwari, B. K., Gupta, P., & Pandey, D. K. (2023). How the global airline industry behaved to restrictions on air travel to India? An event study analysis. *Economic Research-Ekonomska Istraživanja*, 36(1), 1040–1054. <https://doi.org/10.1080/1331677X.2022.2081234>
- Lee, D., & Mas, A. (2012). Long-run impacts of unions on firms: New evidence from financial markets, 1961–1999. *The Quarterly Journal of Economics*, 127(1), 333–378. <https://doi.org/10.1093/qje/qjr058>
- Levendis, J., & Dicle, M. F. (2016). The economic impact of Airbnb on New Orleans. Available at SSRN 2856770. <https://doi.org/10.2139/ssrn.2856770>
- Luoma, T. (2011). Nonparametric event study tests for testing cumulative abnormal returns.
- Maneenop, S., & Kotcharin, S. (2020). The impacts of COVID-19 on the global airline industry: An event study approach. *Journal of Air Transport Management*, 89, 101920.. <https://doi.org/10.1016/j.jairtraman.2020>
- Mao, Y., Tian, X., & Ye, K. (2018). The real effects of sharing economy: Evidence from Airbnb.. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3111975>
- Markoulis, S., & Neofytou, N. (2019). The impact of terror attacks on global sectoral capital markets: An empirical study. *The Economics of Peace & Security Journal*, 14(1). <https://doi.org/10.15355/epsj.14.1.46>
- Martin, J. M., Rodriguez Martin, J. A., Zermeno Mejia, K. A., & Salinas Fernandez, J. A. (2018). Effects of vacation rental websites on the concentration of tourists: Potential environmental impacts. An application to the Balearic islands in Spain. *International Journal of Environmental Research and Public Health*, 15(2), 347. <https://doi.org/10.3390/ijerph15020347>
- Negi, G., & Tripathi, S. (2022). Airbnb phenomenon: A review of literature and future research directions. *Journal of Hospitality and Tourism Insights*, 6(5), 1909–1925. ahead-of-print. <https://doi.org/10.1108/JHTI-04-2022-0133>
- Palatnik, R. R., Tavor, T., & Voldman, L. (2019). The symptoms of illness: Does Israel suffer from “Dutch disease”? *Energies*, 12(14), 2752.. <https://doi.org/10.3390/en12142752>
- Pandey, D. K., & Kumar, R. (2022). Lockdown, unlock, stock returns, and firm-specific characteristics: The Indian tourism sector during the COVID-19 outbreak. *Current Issues in Tourism*, 25(7), 1026–1032. <https://doi.org/10.1080/13683500.2021.2005549>
- Pandey, D. K., & Kumari, V. (2021). Event study on the reaction of the developed and emerging stock markets to the 2019-nCov outbreak. *International Review of Economics and Finance*, 71, 467–483.. <https://doi.org/10.1016/j.iref.2020.09.014>
- Papakyriakou, P., Sakkas, A., & Taoushianis, Z. (2019). The impact of terrorist attacks in G7 countries on international stock markets and the role of investor sentiment. *Journal of International Financial Markets, Institutions and Money*, 61, 143–160.. <https://doi.org/10.1016/j.intfin.2019.03.001>
- Patell, J. M. (1976). Corporate forecasts of earnings per share and stock price behavior: Empirical test. *Journal of Accounting Research*, 14(2), 246–276.. <https://doi.org/10.2307/2490543>
- Sainaghi, R., & Baggio, R. (2020). Substitution threat between Airbnb and hotels: Myth or reality? *Annals of Tourism Research*, 83, 102959.. <https://doi.org/10.1016/j.annals.2020.102959>
- Schneiders, A., Fell, M. J., & Nolden, C. (2022). Peer-to-peer electricity trading and the sharing economy: Social, markets and regulatory perspectives. *Energy Sources, Part B: Economics, Planning, & Policy*, 17(1), 2050849.. <https://doi.org/10.1080/15567249.2022.2050849>
- Seraphin, H. (2021). COVID-19: An opportunity to review existing grounded theories in event studies. *Journal of Convention & Event Tourism*, 22(1), 3–35. <https://doi.org/10.1080/15470148.2020.1776657>

- Sharma, A., & Nicolau, J. L. (2020). An open market valuation of the effects of COVID-19 on the tourism and travel industry. *Annals of Tourism Research* 83, 102990. forthcoming. <https://doi.org/10.1016/j.annals.2020.102990>
- Shin, H., Sharma, A., Nicolau, J. L., & Kang, J. (2021). The impact of hotel CSR for strategic philanthropy on booking behavior and hotel performance during the COVID-19 pandemic. *Tourism Management*, 85, 104322. <https://doi.org/10.1016/j.tourman.2021.104322>
- Sorescu, A., Warren, N. L., & Ertekin, L. (2017). Event study methodology in the marketing literature: An overview. *Journal of the Academy of Marketing Science*, 45(2), 186–207.. <https://doi.org/10.1007/s11747-017-0516-y>
- Sundararajan, A. (2013, January 3). From Zipcar to the sharing economy. *Harvard Business Review*. <https://hbr.org/2013/01/from-zipcar-to-the-sharing-eco/>
- Tahir, S. H., Tahir, F., Syed, N., Ahmad, G., & Ullah, M. R. (2020). Stock market response to terrorist attacks: An event study approach. *The Journal of Asian Finance, Economics & Business*, 7(9), 31–37.. <https://doi.org/10.13106/jafeb.2020.vol7.no9.031>
- Teitler-Regev, S., & Tavor, T. (2023). The effect of Airbnb announcements on hotel stock prices. *Australian Economic Papers*, 62(1), 78–100. <https://doi.org/10.1111/1467-8454.12281>
- van Holm, E. J. (2020). Evaluating the impact of short-term rental regulations on Airbnb in New Orleans. *Cities*, 104, 102803. <https://doi.org/10.1016/j.cities.2020.102803>
- Varma, A., Jukic, N., Pestek, A., Shultz, C. J., & Nestorov, S. (2016). Airbnb: Exciting innovation or passing fad? *Tourism Management Perspectives*, 20, 228–237. <https://doi.org/10.1016/j.tmp.2016.09.002>
- Viljoen, R. M. (2016). *The Reaction of South African Dual-Listed Stock Prices to International Public Announcements* [Doctoral dissertation]. North-West University (South Africa), Potchefstroom Campus.
- Wilcoxon, F. (1945). Individual Comparisons by Ranking Methods. *Breakthroughs in Statistics* (pp. 196–202). New York, NY: Springer. https://doi.org/10.1007/978-1-4612-4380-9_1
- Yang, Y., Nieto García, M., Viglia, G., & Nicolau, J. L. (2021). Competitors or complements: A meta-analysis of the effect of Airbnb on hotel performance. *Journal of Travel Research*, 61(7), 1508–1527.. <https://doi.org/10.1177/00472875211042670>
- Zervas, G., Proserpio, D., & Byers, J. W. (2017). The rise of the sharing economy: Estimating the impact of Airbnb on the hotel industry. *Journal of Marketing Research*, 54(5), 687–705.. <https://doi.org/10.1509/jmr.15.0204>
- Zivney, T. L., & Thompson, D. J. (1989). The specification and power of the sign test in measuring security price performance: Comments and analysis. *Financial Review*, 24(4), 581–588. <https://doi.org/10.1111/j.1540-6288.1989.tb00362.x>
- Zoungrana, T. D., Toe, D. L. T., & Toé, M. (2021). COVID-19 outbreak and stocks return on the West African economic and monetary union's stock market: An empirical analysis of the relationship through the event study approach. *International Journal of Finance & Economics*, 28(2), 1404–1422. <https://doi.org/10.1002/ijfe.2484>

Appendix A

Examples of announcements with general locations

- (1) Celebrate Carnival in These Lesser-Known Destinations – This March, experience the marvel of Carnival beyond the classic festival destinations and opt for off-the-grid cities rich with local tradition, celebration, rhythm and color – February 25, 2019
- (2) Chinese New Year Update – The upcoming Chinese New Year holiday highlights China travel trends and today, we are releasing a series of metrics regarding Airbnb and Chinese New Year travel – February 4, 2019

Examples of announcements with exact locations

- (1) Airbnb Collects Over \$1 Billion in Tourism Taxes in the United States – April 15, 2019
- (2) “Welcome to France”: Airbnb’s community board meets for the second time July 6, 2018
- (3) Celebrate Adaptive Sport and Discover Accessible Airbnb Homes in Australia October 14, 2018

Appendix B

Location		Europe			
North America United States		France	United Kingdom	Germany	Spain
Company Braemar Hotels & Resorts Inc. Choice Hotels International, Inc. City Holding Company Hyatt Hotels Corporation Intercontinental Hotels Group PLC Summit Hotel Properties, Inc. Marriott International, Inc. Pebblebrook Hotel Trust Sunstone Hotel Investors, Inc. Sotherly Hotels Inc. Starwood Property Trust, Inc. Xenia Hotels & Resorts, Inc. AdvisorShares Vice Wynd Hotel & Banquet Location Australasia Australia Company Hotel Property Investment		Accor SA Pierre Et Vacances SA	Accor SA Intercontinental Hotels Group PLC Intercontinental Hotels Group PLC Malin Corporation PLC Melia Hotels International SA Mid Wynd International Investment Trust PLC	Accor SA Hilton Worldwide Holdings, Inc. Orascom Development Holding Ltd Intercontinental Hotels Group PLC Pierre Et Vacances SA	Melia Hotels International SA NH Hotel Group SA
Asia India Brigade Enterprises Ltd Eih Ltd Indian Hotel Company Ltd Taj Gvk Hotels and Resorts Ltd BSE Sensex 30		Japan	Fujita Kanko Inc. Imperial Hotel Ltd Resorttrust, Inc. Royal Holdings Co., Ltd Agora Hospitality Group MBK Hotel & Tourism (MBK PLC)	China Great Eagle Holdings Ltd Huangshan Tourism Development Shangri-La Asia Ltd	Thailand MBK Hotel & Tourism (MBK PLC)